Six cavity test 3.

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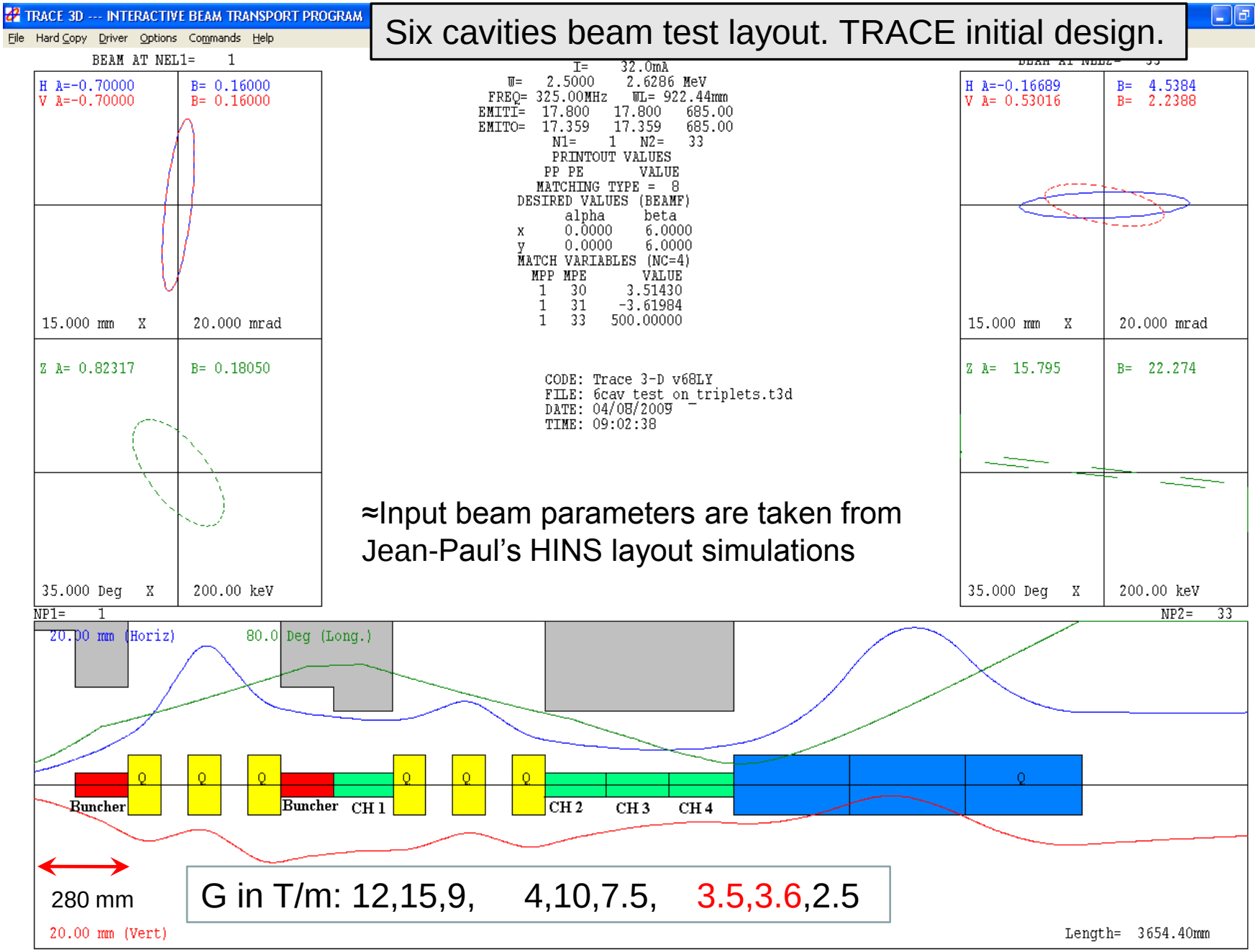
Iterations

- Initial design.
- First mechanical layout with real physical lengths of elements with vacuum valve and transformer between RFQ and Buncher 1. Simulations.
- Second mechanical layout. Buncher 1 is placed after quad triplet. Simulations.

Six cavities beam test layout. TRACE initial design.

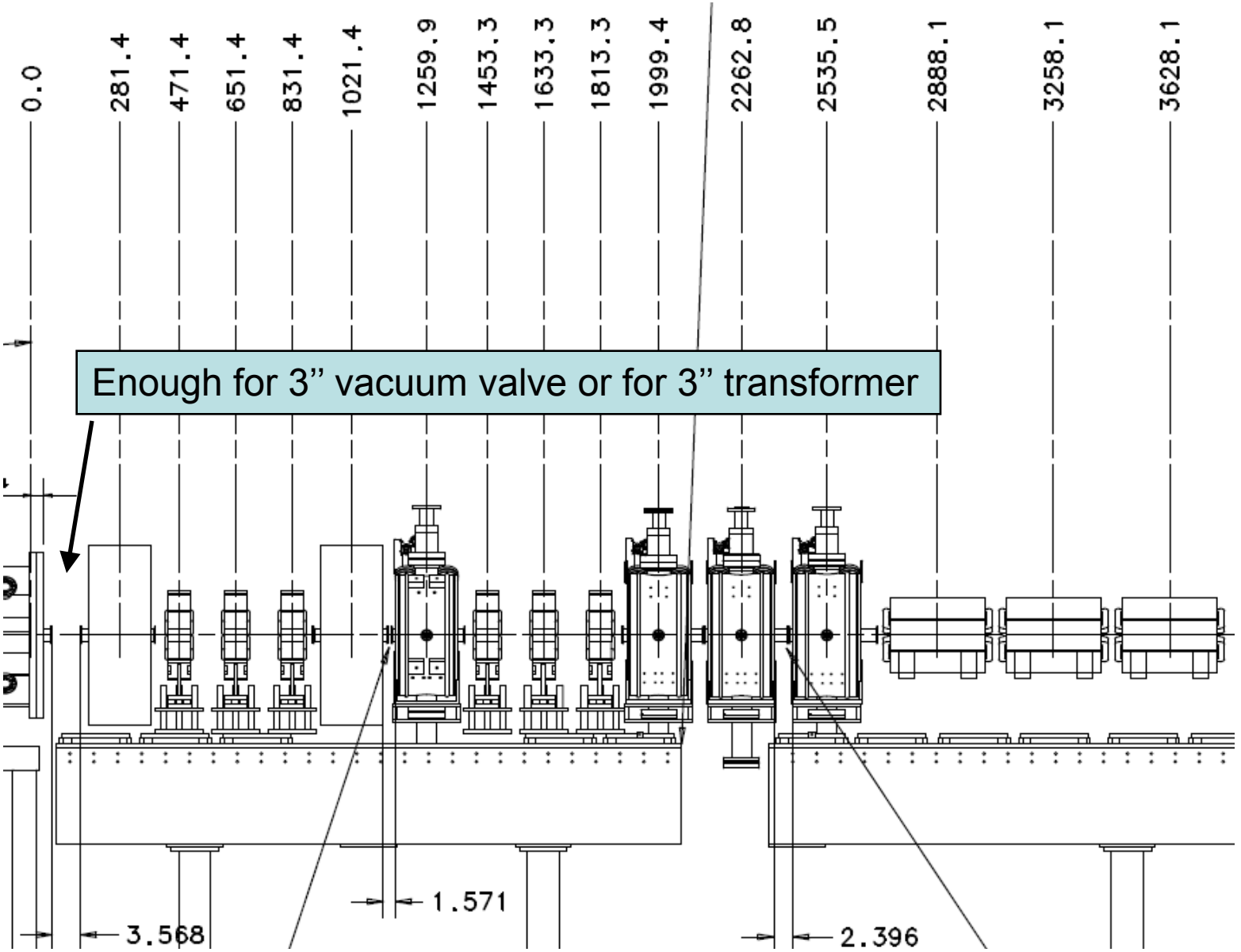


≈Input beam parameters are taken from Jean-Paul's HINS layout simulations

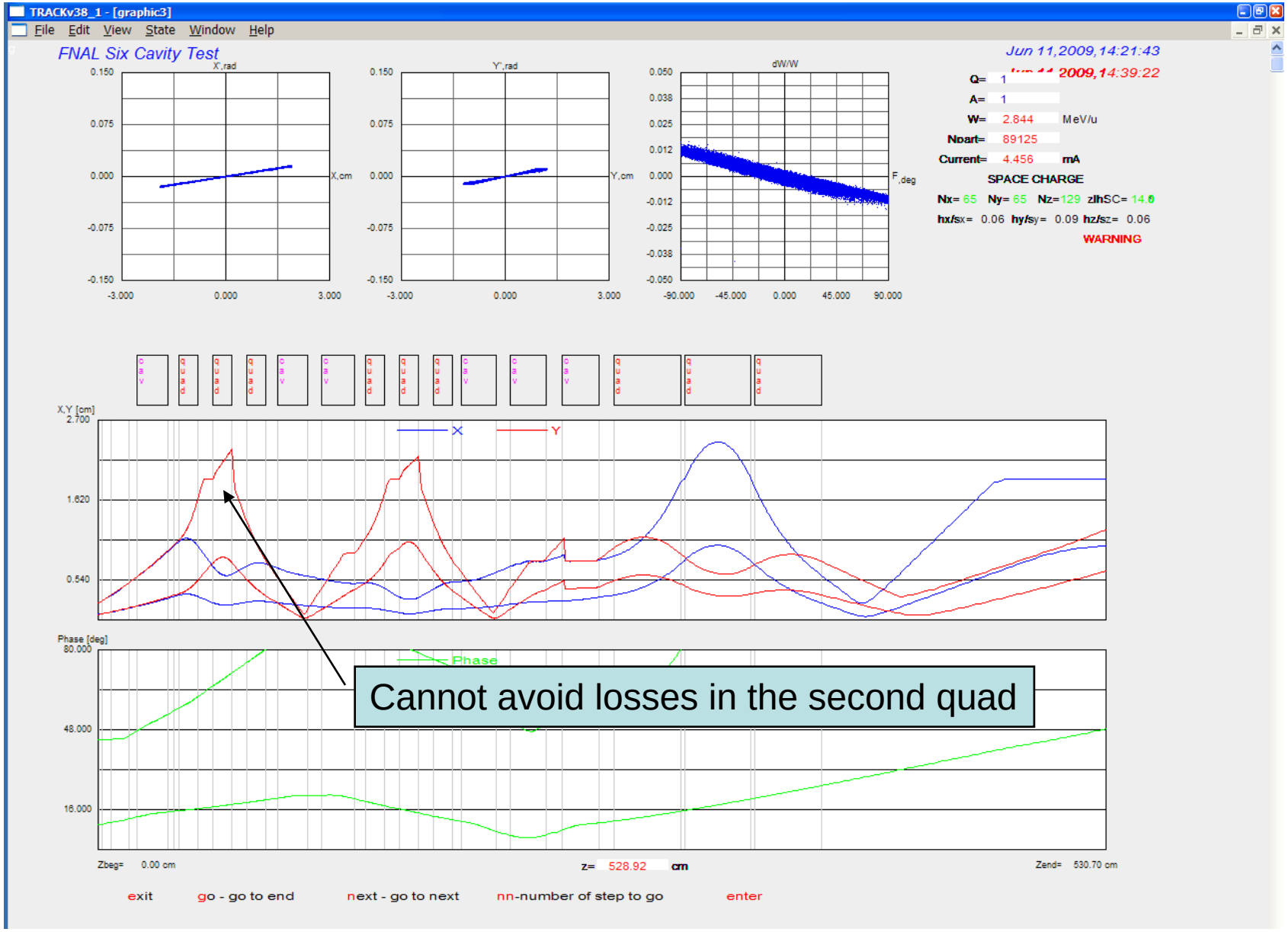
G in T/m: 12,15,9, 4,10,7.5, 3.5,3.6,2.5

Six cavities beam test layout. TRACK initial design.

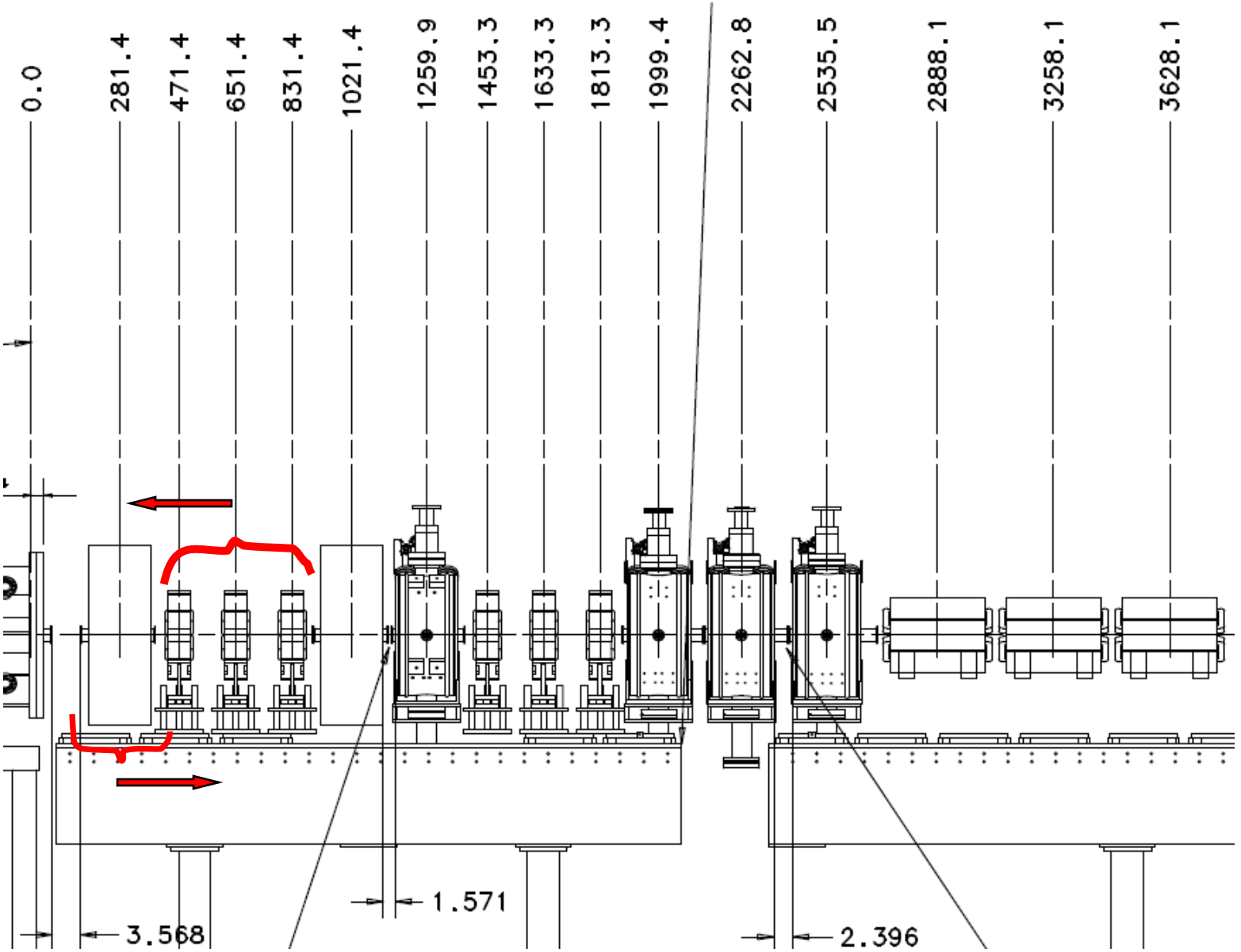
Mechanical layout . Initial design with real physical lengths.



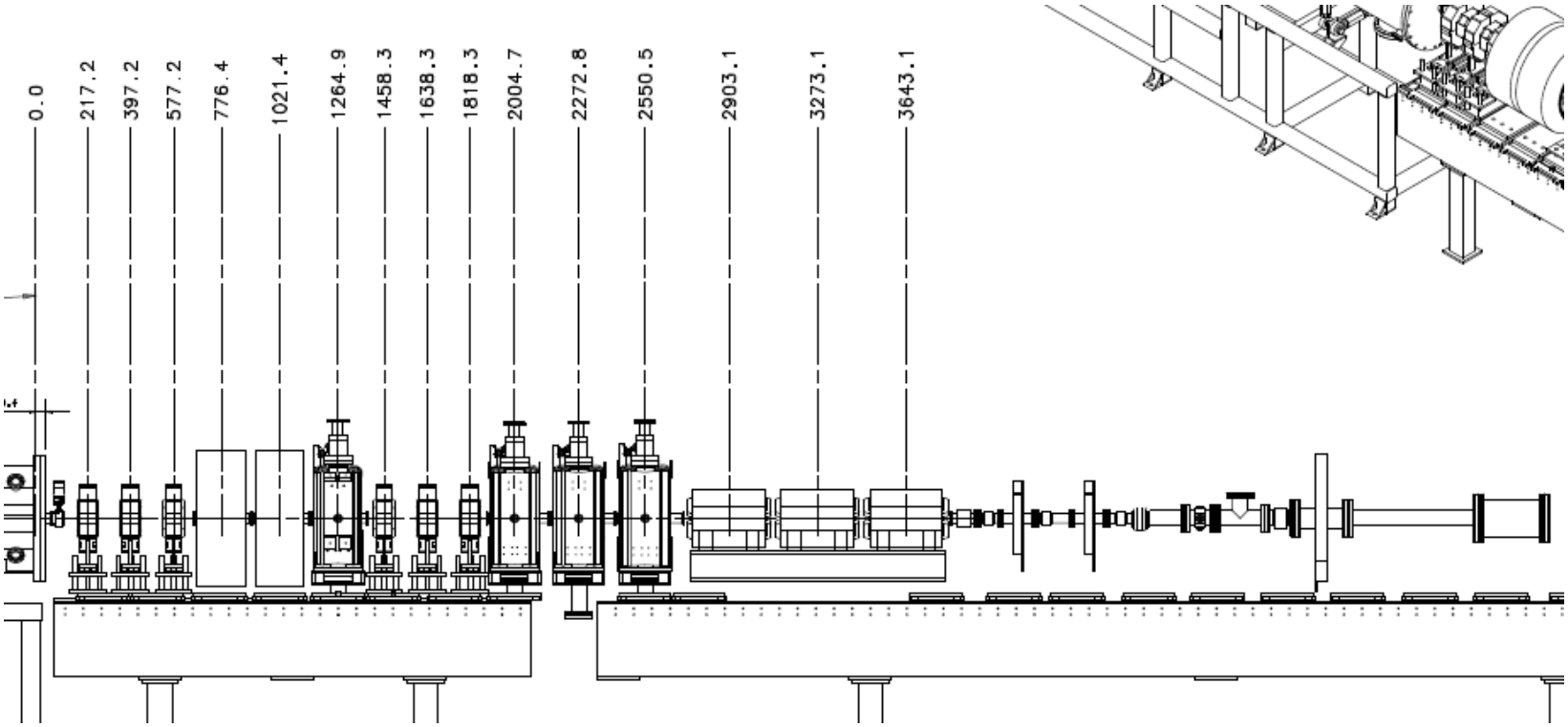
Initial design with real physical lengths.



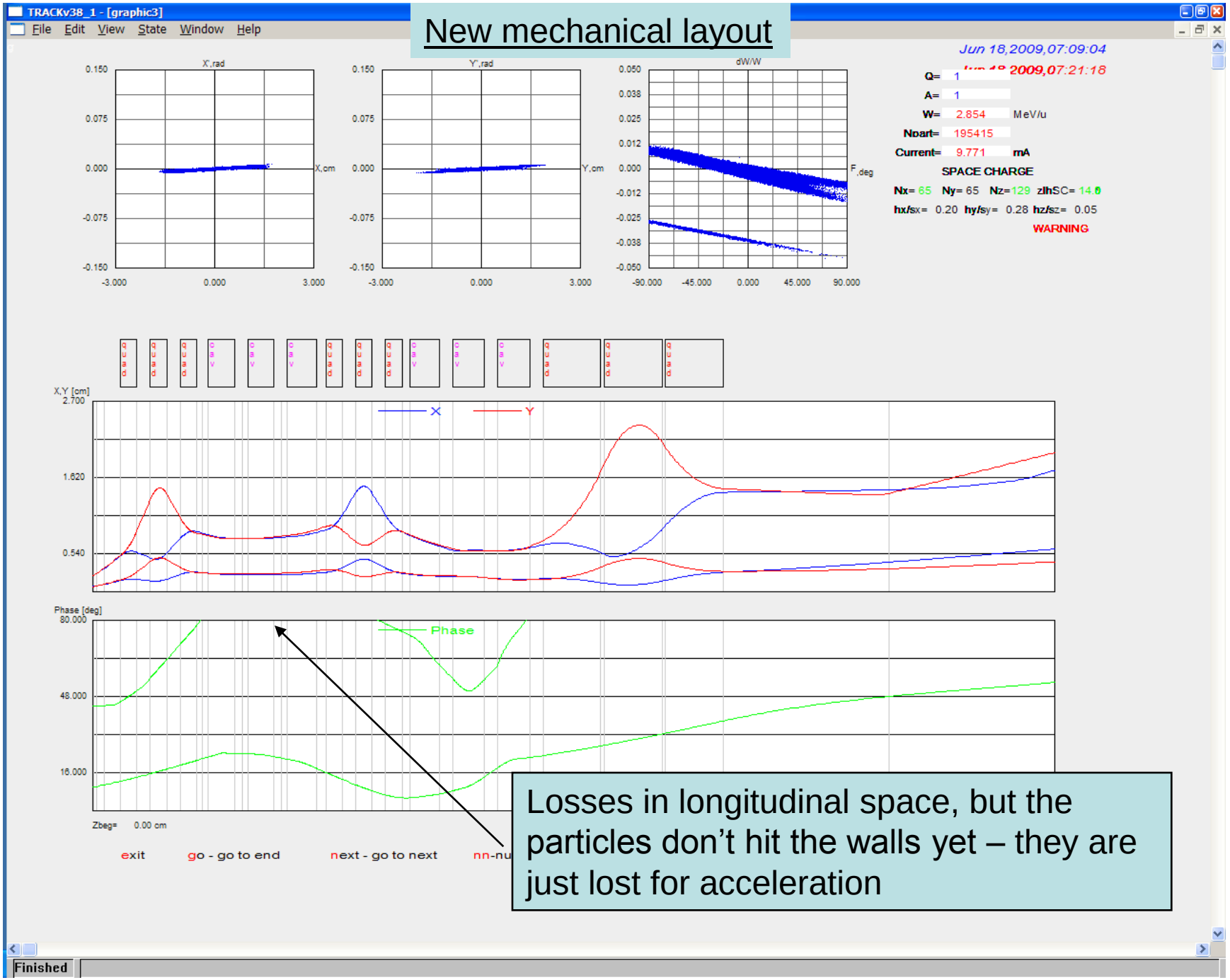
Solution: Switch buncher 1 and quad triplet 1



New mechanical layout



New mechanical layout



Losses in longitudinal space, but the particles don't hit the walls yet – they are just lost for acceleration

Quad gradients, T/m

Quad		Gradient
HE linac	1	12.14
HE linac	2	-15.53
HE linac	3	8.98
HE linac	4	-7.28
HE linac	5	12.14
HE linac	6	-7.04
MI trim	1	2.45
MI trim	2	-2.68
MI trim	3	1.41

Next:

- Maximize acceleration, optimize longitudinal motion (hopefully without changes in the layout)

- Prepare tables for quad gradients and power table for the accelerating cavities and the bunchers